

TEXAS A&M AGRI LIFE EXTENSION



Altering Recipes for Good Health

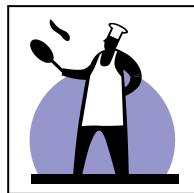
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Artful Recipe Altering

For several years, health professionals have advised Americans to eat less fat, sugar, and salt, and to eat more fiber. The USDA's ChooseMyPlate.gov website, based on the *Dietary Guidelines for Americans* (2010), reflects these recommendations.



To make an eating plan or healthy diet that follows the *Dietary Guidelines for Americans*, take the following actions:

- emphasize fruits, vegetables, whole grains, and fat-free or low-fat dairy and milk products;
- include lean meats, poultry, fish, beans, eggs, and nuts; and
- keep it low in saturated fats, trans fats, cholesterol, salt (sodium), and added sugars.

Visit ChooseMyPlate.gov to help you in selecting an eating plan based on current eating patterns, health status, daily exercise plan, and potential risk for health problems linked to diet, such as obesity, diabetes, or heart disease. Perhaps a change to some cooking methods may be in order.

Recipes = Chemical Formulas

Recipes specify the ingredients, proportions, and methods necessary to produce a quality product. Companies and publishers spend time and money testing recipes for consumer use. Any change made in the recipe will produce a slightly different product from the one that was tested and published. Some changes you may like and others you may not.



Recipes for combined foods, such as casseroles and soups, are more flexible than others. A cookie recipe is more adaptable than a cake recipe. Recipes for most baked products can be altered, but recipes for any preserved product, such as pickles, salsa, jellies, or candies should not be changed at all.

Modifying a recipe may produce a product that doesn't meet your expectations. For example, a cake made with less fat will not have the same flavor or texture as the high-fat version. Cookies with less sugar or fat will still be acceptable but might not look or taste the same as those made by the original recipe. Substituting skim milk for whole milk in puddings, soups, and sauces will give a product that is less rich and creamy but has less fat and calories.

Ingredients that can Be Changed

Most people either fail to notice much difference or accept the difference that results when the following kinds of changes are made.

Reduce sugar by one-third. For example, if a recipe says to use 1 cup of sugar, use $\frac{2}{3}$ cup. This change works best in canned and frozen fruits and in making puddings and custards. In cookies and cakes, try using $\frac{1}{2}$ cup sugar per cup of flour. For quick breads and muffins, use 1 tablespoon sugar per cup of flour. To enhance the flavor when sugar is reduced, add vanilla, cinnamon, or nutmeg.



Reduce fat by one-third. For example, if a recipe calls for $\frac{1}{2}$ cup of fat, use $\frac{1}{3}$ cup. This method works best in gravies, sauces, puddings, and some cookies. For cakes and quick breads, use 2 tablespoons fat per cup of flour.

Omit salt or reduce by one-half. For example, if a recipe calls for $\frac{1}{2}$ teaspoon salt, use $\frac{1}{4}$ teaspoon. This method may be more acceptable if you gradually reduce the amount of salt each time you make the recipe. Herbs, spices, or salt-free seasoning mixes can also be used as flavor enhancers. Do not eliminate salt from yeast bread or rolls; it is essential for flavor and helps the texture.

Substitute whole grain and bran flours. *Whole wheat flour* can replace from one-fourth to one-half of the all-purpose flour. For example, if a recipe has 3 cups all-purpose flour, use $1\frac{1}{2}$ cups whole wheat flour and $1\frac{1}{2}$ cups all-purpose flour.

Oat bran or oatmeal (that has been ground to flour consistency in a food processor or blender) can replace up to one-fourth of the all-purpose flour. For example, if a recipe has 3 cups all-purpose flour, use $\frac{3}{4}$ cup oat bran or ground oatmeal and $2\frac{1}{4}$ cups all-purpose flour.

Bran cereal flour is made by grinding a ready-to-eat cereal such as Bran Buds® or 100% Bran® in a blender or food processor for 60 to 90 seconds. It can replace up to one-fourth of the all-purpose flour. For example, if a recipe calls for 2 cups all-purpose flour, use $\frac{1}{2}$ cup bran flour and $1\frac{1}{2}$ cups all-purpose flour.

Detect Fat

All fats and oils are high in calories, but you can make a healthier choice by selecting those with less saturated fat. Some sources of saturated fat include animal products and tropical oils such as palm kernel or coconut oil. Another fat of concern is trans fatty acids or trans fats (partially hydrogenated vegetable oil). Trans fatty acids are found in stick margarine, vegetable shortening, and some prepared foods such as cakes, cookies, crackers, and commercially fried foods. Trans fats occur naturally in small quantities in meats (beef, pork, lamb), butter, and milk. Since 2006, trans fats have had to be identified on the food label. Likewise, when you use lower-fat dairy products, you reduce fat, calories, and cholesterol.

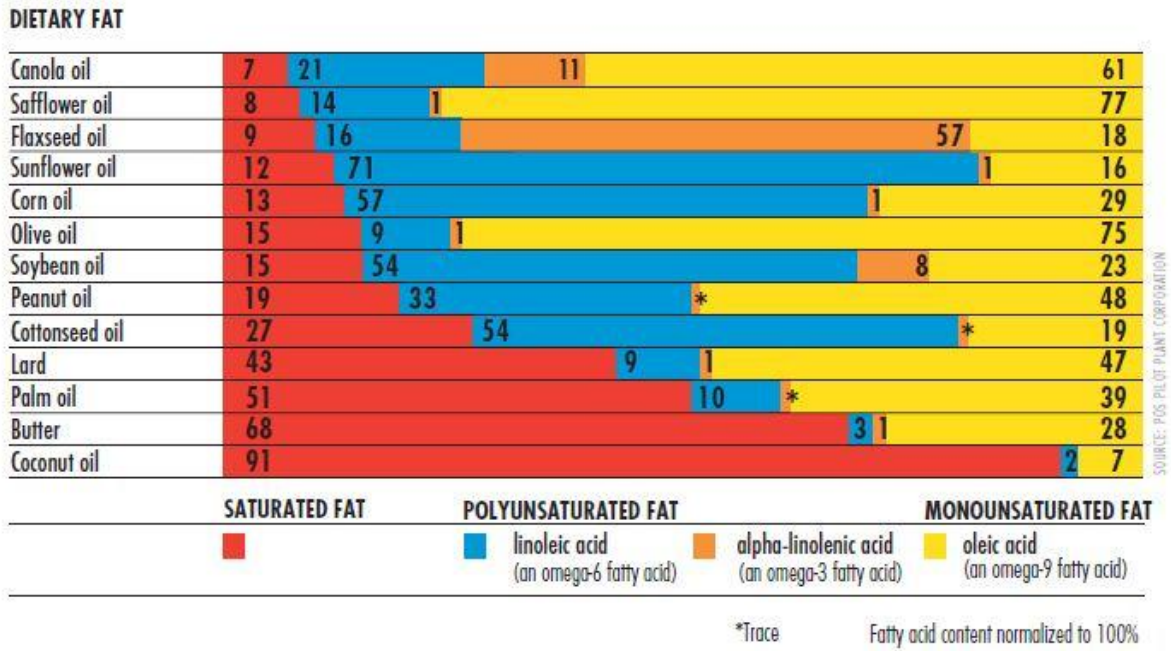
Fat and Oil Comparison

Type of fat or oil	Cholesterol (mg/Tbsp.)	Saturated fat or oil
Coconut oil	0	77%
Butter	33	54%
Palm oil	0	51%
Beef fat	14	51%
Animal fat shortening	0	44%
Lard	12	41%
Cottonseed oil	0	27%
Vegetable shortening (Crisco)	0	26%
Margarine	0	18%
Soybean oil	0	15%
Olive oil	0	14%
Peanut oil	0	13%
Corn oil	0	13%
Sunflower oil	0	11%
Safflower oil	0	9%
Canola oil	0	6%



From *Small Steps Make a Big Fat Difference*, Puritan Oil, Proctor and Gamble, 2000. This chart provides only the amounts of cholesterol and saturated fats that may cause blood cholesterol levels to increase.

Comparison of Dietary Fats



Canola Oil Council of Canada, 2012, https://canola-council.merchantsecure.com/canola_resources/product45.aspx. This chart provides the amounts of saturated fat, polyunsaturated fat (linoleic and alpha-linolenic acids), and monounsaturated fat (oleic acid).

Fats are not always interchangeable, as shown in the examples below:

- Oil is 100 percent fat; margarine is an emulsion containing 80 percent fat and 20 percent water (“lite” margarine-type spreads contain a higher proportion of water). Substituting 1 cup oil for 1 cup margarine adds more fat than the recipe intended. Consequently, cookies will feel and taste greasy.
- A well-textured cookie depends on thorough creaming of the fat and sugar. Oil cannot be creamed, so substituting it for a solid shortening is likely to change both texture and volume.
- Can lite margarine-type spreads be substituted for solid shortening when baking? It is possible, but it cannot be a direct substitution. Since lite or diet margarines have more water, the amount of liquid in the recipe also must be reduced. Rather than substituting reduced-fat margarines, try using less of the regular margarine. You won’t have to alter the amount of liquid, and you will save calories.

Milk Product Comparison

(Values are approximations for general comparisons; check the labels for specific values.)

Milk products (1 cup)	Calories	Fat (g)	Cholesterol (mg)
Whipping cream (Heavy cream, fluid)	832	90	336
Medium cream (25% fat)	590	61	208
Light cream	470	46	159
Half and half (half milk, half cream)	315	28	89
Whole milk	150	8	33
2 percent milk	120	5	18
1 percent milk	100	3	10
Skim milk	85	trace	4
Evaporated whole milk	340	19	74
Evaporated skim milk	200	1	9

From *Food Values of Portions Commonly Used*, 19th edition. New York: Harper and Row. 2009.

Did You Know?

You can use reduced-fat sour cream, low-fat or non-fat yogurt, or cottage cheese instead of regular sour cream in sauces and dips. Skim milk can be used instead of whole milk in most recipes. Evaporated milk can be substituted for whipping cream, and evaporated skim milk can be substituted for regular evaporated milk in some recipes.

Ingredient Substitutions that Are Heart-Smart

By making a few substitutions and changes, you can still prepare your favorite recipes and reduce your intake of calories, fat, and cholesterol.



INSTEAD OF	TRY	BEST CHOICE
Butter	60/40 margarine - butter blend	Margarine or reduced calorie margarine
Sour cream	Lite sour cream	Mock Sour Cream
2 whole eggs	1 whole egg plus 2 egg whites	4 egg whites, commercial egg substitute, or Homemade Egg Substitute
Whole milk	2% milk	Skim milk
Cream	Evaporated milk	Evaporated skim milk
Cream cheese	Light cream cheese or Neufchâtel®	Yogurt Cheese
Whipped cream or non-dairy whipped topping	Non-fat whipped topping	Non-fat whipped topping or no-fat whipped topping
Cheddar, Colby, Swiss Cheese	Cut down on the amount you usually eat	Select part-skim mozzarella, reduced-fat natural cheese, farmer cheese, or low-fat processed cheese
Cottage cheese	Low-fat cottage cheese	Non-fat ricotta or cottage cheese
Baking chocolate (1 ounce)	3 tablespoons powdered cocoa plus 1 tablespoon cooking oil	3 tablespoons powdered cocoa plus 1 tablespoon cooking oil
Mayonnaise	Lite mayonnaise	Half cholesterol-free mayonnaise and half non-fat yogurt
Salad dressing	Reduced-fat dressing	Fat-free dressing
Chicken with skin	Remove skin <i>after</i> cooking	Remove skin <i>before</i> cooking
Regular ground beef	Lean ground beef	Use extra lean ground beef or lean ground turkey

Recipes for Reduced Fat Substitutes

To save money as well as calories, make your own low-fat substitutes by using the recipes that follow.

No-Fat Whipped Topping

1 tablespoon unflavored gelatin
2 tablespoons boiling water
½ cup non-fat dry milk powder
a cup ice water
2 tablespoons lemon juice
3 tablespoons sugar
1 teaspoon vanilla



1. Dissolve gelatin in boiling water.
2. In a thoroughly chilled small bowl, beat milk and ice water.
3. Beat in lemon juice.
4. Add sugar and vanilla, and beat to soft peaks.
5. Add gelatin mixture and beat.

Yield: about 1½ cups

Calories: 12 per tablespoon

Mock Sour Cream

1 cup lowfat cottage cheese*
2 tablespoons skim milk
1 tablespoon lemon juice

Combine all ingredients using a blender or food processor.

Yield: about 1 cup

	Sour Cream	Mock Sour Cream
	<i>Per Tablespoon</i>	
Calories	26.0	14
Fat, grams	2.5	0
Cholesterol, mg	5.0	1

*Use non-fat cottage cheese, if available.

Another option is to use a blender to combine equal amounts of low-fat or non-fat cottage cheese with low fat or non-fat plain yogurt.

Casserole Sauce Mix

Use this recipe instead of canned cream soups in casserole recipes. It has about one-third the calories.

2 cups non-fat dry milk powder
¾ cup cornstarch
¼ cup instant reduced sodium chicken or beef bouillon
½ teaspoon dried crushed thyme
½ teaspoon dried crushed basil
¼ teaspoon pepper

1. Combine all ingredients using a blender or food processor. Store in an airtight container.
2. To prepare a substitute for one can of condensed cream soup in recipes, stir together a cup dry mix and 1¼ cups water in a saucepan.
3. Cook and stir until thickened.

Yield: Equivalent to 9 cans condensed soup

Calories: 107 per cup of dry mix

Fat: 1 gram

Homemade Egg Substitute (for Cooked Products Only):

Because this recipe contains raw eggs, do not use it in uncooked products such as eggnog and ice cream.

¼ cup non-fat dry milk powder
1 teaspoon vegetable oil
6 egg whites

1. Combine all ingredients (using a blender or electric mixer) until the mixture is smooth.
2. Store in covered container in the refrigerator for up to 2 days, or freeze in ¼ cup portions; thaw overnight in the refrigerator.

Yield: 1 cup; ¼ cup is equivalent to 1 egg.

	Large Egg	Homemade Egg Substitute
Calories	79.0	70.0
Fat, grams	5.6	3.5
Cholesterol, mg	213.0	<1.0

Yogurt Cheese

Use this recipe as a substitute for cream cheese in spreads or in desserts and frostings. Make your own spreads by mixing with cinnamon, orange peel, dried fruit, jam, or herbs.

32 ounces plain non-fat or low-fat yogurt made without stabilizers or gelatin

1. Line a strainer with a double layer of cheesecloth or with a paper coffee filter; place it over a bowl.
2. Pour yogurt into the lined strainer. Cover it with plastic wrap and refrigerate.
3. Allow it to drain for 8 to 24 hours, until the liquid has drained into the bowl and the yogurt is thick and spreadable. The longer it drains, the more whey is expressed and the firmer the cheese.
4. Remove the cheese from the cloth and refrigerate in an airtight container.

	Cream cheese	<i>Per tablespoon</i>	Yogurt cheese
Calories	49.0		5
Fat, grams	4.9		0
Cholesterol, mg	15.5		0

Did You Know?

The amount of saturated fat in the diet has a much greater effect on blood cholesterol than does the amount of cholesterol in the diet.

Remove the Fat

Healthy eating involves recognizing habits that may not be so healthy and then taking steps to change them. For example, think about the foods you ate yesterday. Which ones contained fat? Write them down in the left column below. What lower-fat foods could you have chosen instead? Write them down in the right column.



Foods eaten		Lower fat choices
	Breakfast	
	Snack	
	Lunch	
	Snack	
	Dinner	
	Snack	

Fat Substitute Facts

Some consumers are interested in lowering their fat intake with the use of fat substitutes. Fat substitutes help reduce the intake of high-fat foods with reduced fat substitutes of familiar foods. These fat substitutes do contain about the same number of calories as carbohydrates and protein, so they should be eaten within the context of a healthful diet using moderation and variety.

Fat Substitutes in Processed Foods

Modified foods may be labeled as light (lite), reduced calorie, or reduced fat. These foods may be made from a fat-reduced formula or contain a commercial fat substitute with fewer calories per gram than fat. Two major types of fat substitutes are carbohydrate-based and protein-based.

- **Carbohydrate-based fat substitutes** such as modified starches, dextrans, cellulose, and gums work by combining with water to provide a thicker texture and appearance, as in fat-free salad dressings.
- **Protein-based fat substitutes** made of skim milk protein provide the sensation of creaminess as well as improving appearance and texture. Low-fat cheese made with a protein-based substitute has an appearance and texture close to full-fat cheese.

Both types of fat substitutes contribute some calories, although less than that contributed by fat. Often, a combination of ingredients is used to create higher quality reduced-fat products.

What Types of Foods Use Fat Substitutes?

Foods commonly high in fat such as margarines, salad dressings, mayonnaise, cheese, sour cream, and frozen desserts have used fat substitutes with varying degrees of success. Now you can buy low-fat ice creams with either a protein-based fat substitute or a combination of starches and gums. Many baked goods and some candies are also made using fat substitutes to help reduce their fat.

Cutting Fat in Foods

	Traditional Recipe (grams of fat)	Made Using Fat Substitute (grams of fat)
Margarine, 1 tablespoon	7-12	0-6
Salad dressing		
Creamy, 2 tablespoons	11-21	0-8
Clear, 2 tablespoons	5-20	0-6
Mayonnaise, 1 tablespoon	11	0-5
Cheese		
Hard, 1 ounce	8-11	4-5
Processed, 1 ounce	7-9	0-4
Cream cheese, 2 tablespoons	9-10	0-5
Sour cream, 1 tablespoon	2-5	0-1
Ice cream, ½ cup	7-26	0.3-2

Source: Pennington, J.A.T. Bowes & Church's Food Values of Portions Commonly Used, 19th edition. Philadelphia: J.B. Lippincott Company, 2009; and Facts about Fat Substitutes Nutrition Fact Sheet, National Center for Nutrition and Diabetes, 2004.

What Are Some Fat Substitutes on the Market Today that Are Approved by the Food And Drug Administration?

- Simplese® = protein-based fat substitute
- Olestra® = synthetic triglyceride modifications with sugar molecules containing long chain fatty acids

Recipes for Using Fat Substitutes

To find recipes for baking or for other food preparation using fat substitutes, contact consumer information at the following numbers:

- Simplese® Fat, CP Kelco Company: 1-678-247-7300 or 1-800-535-2687
<http://www.cpkelco.com/products/index.html>
- Olean® (Olestra®), Proctor and Gamble Consumer Hotline: 1-800-477-8899 or e-mail at <http://www.pgfoodingredients.com/>
- For all others, contact the company directly for consumer information about the products' use in food preparation.

Three contacts about the safety of using fat substitutes:

- Academy of Nutrition and Dietetics' (ANAD) Hotline: 1-800-366-1655; 1-800-877-1600; www.eatright.org
- American Heart Association 1-800-AHA-USA; 1-800-(242-8721)
<http://www.americanheart.org>
- Food and Drug Administration, Consumer Inquiries: 1-888-INFO-FDA (463-6332),
<http://www.fda.gov>



Detect Sugar

At least 21 different forms of simple carbohydrates are identified as sugars. All provide calories, but there are few nutrients. Sugar is a necessary ingredient in many products because it provides sweetness and bulk.



What Health Concerns Are Related to Sugar?

Health concerns about sugar consumption are not as strong as they were 20 years ago. The only health problem strongly linked to sugar is tooth decay. Studies have found that most people consume small to moderate amounts of sugar within the context of healthful meals.

Sugar is not “bad” in terms of being harmful. But its use should be monitored because it contains more calories than nutrients. Eating too many sugary foods can cause individuals to bypass more nutritious foods or to take in more calories than needed and thus lead to weight gain. Weight gain and/or obesity lead to degenerative diseases such as cardiovascular disease, diabetes, hypertension, and it may aggravate other diseases such as arthritis.

What about Sugar Substitutes?

Sugar substitutes make the food sweeter with few calories and no nutrients. They don’t have the functional properties of sugar, and some are adversely affected by heat. The five alternate sweeteners, approved by the U.S. Food and Drug Administration (FDA), on the market today are: saccharin, aspartame, acesulfame-K, sucralose, and neotame. Neotame is available only in processed foods and not for table use to date (2007). The more purified forms of Stevia – Purevia®, and Truvia® – received the Generally Recognized As Safe (GRAS) rating from FDA (2009).

Fruit juices, honey, and molasses are offered as sugar substitutes for baking and cooking. However, the sugar they provide is no more nutritious than other forms of sugar. The amounts used are seldom enough to provide meaningful vitamins or minerals.

To Reduce Sugar

- To cut down on sugar, try new recipes or adjust old ones by using one-third less. To add flavor, use more vanilla or spice.
- Satisfy your longing for something sweet with fruits for snacks and desserts. Eat baked sweets and candies less frequently and/or in smaller portions.
- Read labels of commercially prepared products; many are high in sugar. Whenever possible, substitute home-prepared items made with less sugar.
- Recognize that the following are names of sugars: sucrose, sorbitol, maple syrup, corn syrup, high fructose corn syrup, glucose, fructose, mannitol, molasses, dextrose, maltose, honey, and lactose.
- If you are trying to lose weight and/or have diabetes, then select alternate or non-caloric sweeteners, such as: saccharin (Sweet’N’Low®), aspartame (Equal® or NutraSweet®), acesulfame-K (SweetOne®), or sucralose (Splenda®). Saccharin, sucralose, or acesulfame-K can be used for cooking because they are not destroyed by heat. Aspartame is a protein-derivative and is destroyed by heat, losing its flavor.



To find recipes for baking, cooking, or preserving food and other techniques regarding the use of these products, contact the company's consumer representative:

- **Saccharin - Sweet'N'Low®** Hotline: 1-800-231-1123; 1-800-221-1763
- **Aspartame, Neotame - NutraSweet® or Equal®**: 1- 800-323-5316 (**Equal®**); or 1-800-323-5321 (**NutraSweet®**)
- **Acesulfame-K - SweetOne®**: 1-800-544-8610; or **Sunette®** 1-800-344-5807
- **Sucralose - Splenda®**: 1-800-777-5363

For all other questions about non-nutritive sweeteners, contact the following organizations:

- Academy of Nutrition and Dietetics' (ANAD) Hotline: 1-800-366-1655; 1-800-877-1600; www.eatright.org
- American Diabetes Association's Hotline 1-800-232-3472 or 1-800-342-2383
<http://www.diabetes.org>
- American Heart Association 1-800-AHA-USA; 1-800-242-8721
<http://www.americanheart.org>
- Food and Drug Administration, Consumer Inquiries: 1-888-INFO-FDA (463-6332),
<http://www.fda.gov>

Non-Nutritive Sweetener Conversion Chart

Sugar	2 teaspoons	¼ cup	a cup	½ cup	1 cup
Non-nutritive Sweeteners					
Saccharin					
Sweet N' Low ® packet	1	3	4	6	12
Sweet N' Low ® bulk	1	1 tsp.	1¼ tsp.	2 tsp.	4 tsp.
Sweet N' Low ® liquid	20 drops	½ tsp.	2 tsp.	1 Tbsp.	2 Tbsp.
*for other brands, see food label for sugar equivalents					
Aspartame					
Equal®/NutraSweet® packet	1	Not in bulk packages Not recommended for cooking/baking			
Acesulfame-K					
SweetOne® packet	1	3	4	6	12
*Sugar Twin®, Weight Watchers®, Sucaryl®, Adolphs®, and Sweet 10®					
<hr/>					
Sucralose					
Splenda®: (<i>equivalent of sugar</i>)	2 teaspoons	¼ cup	a cup	½ cup	1 cup

Detect Fiber

Dietary fiber is the undigested material left after nutrients are absorbed from food. Both insoluble fibers (such as in wheat, fruits, and vegetables) and soluble fibers (such as in oats, legumes, apples, and citrus fruits) are important. Study the high fiber choices in this section and use your imagination to find ways to include them more often. Here are three general reminders.

1. Fruits, vegetables, and grains have fiber; animal products do not.
2. The closer a fruit, vegetable, or grain is to its original, natural state the more fiber it will have. An apple has more fiber than applesauce, which has more fiber than apple juice.
3. Substitute a high-fiber food for a low-fiber one to increase your daily fiber supply.

Fiber Substitutes

Instead of	Try	For
Chinese noodles canned onion rings croutons/bacon bits	bran cereal	casserole toppings
cornflakes graham crackers bread crumbs	crushed bran cereal wheat or oat bran	dessert crusts and crumb toppings, in meatloaf, for chicken/fish coatings
white rice	brown rice barley, wheat kernels	casseroles, soup, stir fry, side dishes
chocolate chips	half chips & half raisins	cookies, bars

Add bran cereals, oat bran, and wheat bran to streusel toppings, chili, sloppy joes, sandwich spreads, and spaghetti sauce; or use as a topping for baked potatoes and salads. Bran cereal flour can be substituted for up to one-fourth of the all-purpose flour to increase fiber content. Bran cereals can contain 30 grams of fiber or more per cup. Check labels for exact amounts.

Look on the **Ingredients Listing** on a label for whole grains, cellulose, and other fiber sources such as cellulose, wheat gluten, or starch, etc. Look at the **Nutrition Facts** on a label to find the amount of both total carbohydrates and dietary fiber. As a general rule, a food is considered a **good source of fiber** if it has between 3 to less than 5 grams of fiber, or **high-fiber** if it has 5 or more grams of fiber.

Do You Know which Food Groups Provide the Most Fiber?

Take a look at these foods and the relative amount of fiber each group provides.

Food Groups	Grams Fiber per Serving
bread	1-3
whole fruits, cereals and grains	2
starchy vegetables	3
nonstarchy vegetables	1B4
beans, peas, and lentils	6

Know Your Flours

When a recipe lists flour as an ingredient, we assume it means all-purpose flour. To increase your success rate when substituting other flours, we need to review why flour is used.

The gluten that is formed when protein from wheat flour is combined with liquid gives dough its elasticity and baked products their structure. Flours from other grains have little or no gluten-forming protein. Using specialty flours may result in a reduced volume and a “heavier” finished product, as well as changes in color, flavor, and nutritional value. When using specialty flours:

- Stir whole-grain flours with a spoon before measuring but do not sift. Spoon into the measuring cup and level with a metal spatula.
- Decrease the oven temperature by 25 °F, and increase the baking time because the dough is likely to be more compact.
- For yeast breads, add all of the specialty flour first. Then work the all-purpose or bread flour into the dough. The doughs are mixed and kneaded for a shorter time because of the higher proportion of non-gluten-forming materials. The dough also requires a shorter rising time.

Flour Substitutes

As a thickening: 1 tablespoon flour = ½ tablespoon cornstarch, potato starch, rice starch, or arrowroot starch
or = 1 tablespoon quick-cooling tapioca
or = 2 teaspoons tapioca

Self-rising flour: Add 1½ teaspoons of baking powder and ½ teaspoon of salt per cup of all-purpose flour

How Much Fiber Is in Flour?

All-purpose flour is a highly refined ingredient; consequently, it has very little fiber. If you want to increase fiber in home-baked products, you can substitute other flours in many products. Here’s how some flour choices compare in fiber content:

LEAST FIBER		MOST FIBER	
All Purpose Flour	Medium Rye Flour	Cornmeal Oat Flour*	Whole Wheat Flour

** To make oat flour, put oatmeal in the blender, and blend about 60 seconds. Store in the refrigerator or freezer because of its high-fat content.*

To ensure that whole-wheat fiber (not caramel coloring nor molasses) is present, read labels on bread products. By law, a product labeled “whole wheat” must be made from 100 percent whole-wheat flour. Wheat bread may have varying proportions of enriched white flour and whole-wheat flour. The type of flour present in the largest amount is listed first on the ingredient label.

Allergies to Wheat?

Replacement substitutes for one cup of flour are:

- | | | | |
|-----------------------|--------|-----------|---|
| • Barley flour | ½ cup | OR | ½ cup rye flour + ½ cup potato flour |
| • Corn flour | 1 cup | | or |
| • Corn meal | ¾ cup | | b cup rye flour + a cup potato flour |
| • Potato starch flour | e cup | | or |
| • Rolled oats | 1a cup | | e cup rye flour + a cup rye flour |
| • Rice flour | 1¼ cup | | (10 tablespoons) |
| • Rye flour* | 1¼ cup | | or |
| • Rye meal* | 1 cup | | 1 cup soy flour + ¾ cup potato starch flour |
-

***NOTE:** Some individuals who are allergic to wheat may also be sensitive to gluten, a protein found in wheat and other grains. Grains that contain gluten are barley (and malt), rye, oats, wheat, and triticale. If a person is allergic to wheat, it is a good idea to check with his or her health care provider to see if foods that contain gluten should also be eliminated from the diet.

Detect Salt

Salt, the traditional seasoning of choice, has been linked to high blood pressure. Eat no more than 2300 mg/day or no more than 700 milligrams (mg.) per meal. For persons with hypertension or those who are more sensitive to the effects of sodium (such as blacks and middle-aged and older adults), eat even less sodium during the day (around 1500 milligrams) as advised by the *Recommended Dietary Guidelines for Americans*, 2010.

Have you been told to cut down on sodium? Then you will find the information on labels very helpful. When you're buying packaged foods, always check the labels to make sure the product does not contain too much sodium.

Do you know what to look for to help you cut sodium in your meal plan when selecting foods in the grocery store? Here's how you do it. Select single foods with no more than 400 milligrams of sodium in a single serving; entrees should have no more than 800 milligrams of sodium.

As a result of many people needing to reduce the sodium content of their meals, many no-salt and low-salt seasoning mixes are now on the market. Also, by using the following herb and spice guides and recipes for low-sodium seasonings, you can make them at home.

Herb and Spice Guide

Spices and herbs can be used to enhance the flavor of a fat- or sodium-reduced food. Experiment with small amounts to find an acceptable seasoning level. Powdered herbs are stronger than crumbled, and dried herbs are stronger than fresh herbs. If a recipe calls for ¼ teaspoon powdered herb, you can use ¾ to 1 teaspoon crumbled or flaked, or 2 teaspoons fresh herb.

What's the Difference between an Herb and a Spice?

- Herb (úr̄b,húr̄b) n. leaves of plants and shrubs with non-woody stems
- Spice (sp̄is) n. comes from bark, roots, fruit, seeds, or flowers of plants

When adding herbs or spices, take a tip from professional recipe developers. Start with 1 teaspoon of a mild herb (dried) or spice (such as oregano, basil, cumin, and cinnamon) per six servings. Use only ¼ teaspoon of a strong herb or spice (such as rosemary, cloves, nutmeg, ginger, mustard, allspice) per six servings. Try these herbs and spices with the following foods:

Beef (see also Meat Loaf): allspice, basil bay leaf, caraway seed, chervil, chili powder, cinnamon, cloves, coriander, cumin, curry powder, dill, fennel, garlic, ½ Greek seasoning to ½ pepper, ginger, lemon pepper, marjoram, oregano, paprika, pepper, rosemary, savory, tarragon

Breads: anise, caraway seed, cardamom, cinnamon, coriander, dill, fennel, nutmeg, parsley, poppy seed

Cheeses: basil, caraway seed, cayenne, celery seed, chervil, chives, coriander, cumin, dill, jalapeño pepper, marjoram, oregano, parsley, pepper, sage, thyme

Dips: cayenne, chili powder, chives, curry powder, dill, oregano, parsley, pepper, sage

Eggs: basil, cayenne, celery seed, chervil, chili powder, chives, cumin, curry powder, dill, marjoram, mustard seed, oregano, paprika, parsley, pepper, rosemary, saffron, sage, savory, tarragon, thyme, turmeric

Fish: basil, bay leaf, cayenne, celery seed, chervil, cumin, curry powder, dill, ginger, lemon pepper, marjoram, mustard seed, oregano, paprika, parsley, pepper, saffron, sage, savory, tarragon, thyme, turmeric

Fruits: allspice, anise, basil, cardamom, cinnamon, cloves, curry powder, fennel, ginger, mace, mint, nutmeg, rosemary, poppy seed

Grains: basil, celery seed, chili powder, cumin, curry powder, dill, marjoram, mint, oregano, parsley, pepper, rosemary, saffron, savory, thyme

Jams and Jellies: allspice, bay leaf, cardamom, cinnamon, mace, mint, nutmeg

Lamb: basil, bay leaf, chervil, cinnamon, cloves, cumin, curry powder, dill, garlic cloves, lemon pepper, marjoram, mint, nutmeg, oregano, parsley, pepper, rosemary, saffron, sage, savory, thyme

Lentils: basil, bay leaf, caraway seed, chives, tarragon, thyme, turmeric

Liver: basil, bay leaf, caraway seed, chives, tarragon, thyme, turmeric

Marinades: allspice, bay leaf, cayenne, celery seed, chili powder, cloves, ginger, mustard seed, oregano, parsley, rosemary, tarragon, turmeric

Meat Loaf: chili powder, cumin, curry powder, marjoram, nutmeg, oregano, parsley, pepper, sage, savory, thyme

Pasta: basil, oregano, parsley, pepper, poppy seed

Pickled vegetables: allspice, bay leaf, cardamom, cinnamon, cloves, coriander, dill, ginger, mint, mustard seed, pepper, tarragon, turmeric

Pork: allspice, basil, bay leaf, caraway seed, chervil, cinnamon, cloves, coriander, fennel, ginger, marjoram, nutmeg, pepper, rosemary, sage, savory, thyme

Poultry: basil, bay leaf, chervil, coriander, curry powder, dill, ginger, lemon pepper, marjoram, paprika, parsley, pepper, rosemary, saffron, sage, savory, tarragon, thyme, turmeric

Relishes: allspice, cayenne, chili powder, cloves, coriander, ginger, mace, tarragon

Salad Dressings: caraway seed, celery seed, chervil, chili powder, chives, coriander, curry powder, dill, ginger, mint, mustard seed, paprika, parsley, pepper, poppy seed, tarragon, turmeric

Shellfish: basil, bay leaf, cayenne, curry powder, marjoram, oregano, paprika, parsley, saffron, sage, savory, tarragon, thyme

Soups and Stews: allspice, basil, bay leaf, caraway seed, cayenne, celery seed, chervil, chili powder, chives, cloves, coriander, curry powder, dill, ginger, marjoram, oregano, paprika, parsley, pepper, rosemary, saffron, tarragon, thyme

Stuffings: basil, marjoram, oregano, pepper, rosemary, sage, savory, tarragon, thyme

Vegetables:

Artichoke: bay leaf, coriander, parsley, savory, thyme

Asparagus: chives, lemon pepper, marjoram, mustard seed, parsley, tarragon, thyme, turmeric

Beans, dried: allspice, bay leaf, celery seed, chili powder, cloves, cumin, jalapeño pepper, mint, mustard seed, oregano, sage, savory, tarragon, turmeric

Beans, lima: cumin, dill, marjoram, mustard seed, oregano, sage, savory, tarragon, thyme

Beans, snap: basil, caraway seed, chili powder, dill, marjoram, mustard seed, savory, tarragon, thyme

Beets: allspice, anise, bay leaf, caraway seed, cinnamon, dill, fennel, ginger, mustard seed, savory, tarragon, thyme

Broccoli: caraway seed, dill, mustard seed, oregano, tarragon

Brussels sprouts: basil, caraway seed, dill, mustard seed, sage, thyme

Cabbage: caraway seed, celery seed, cumin, dill, fennel, mustard seed, nutmeg, oregano, paprika, savory, tarragon, turmeric

Carrots: allspice, anise, bay leaf, caraway seed, cinnamon, cloves, dill, fennel, ginger, mace, marjoram, mint, nutmeg, parsley, rosemary, sage, thyme

Cauliflower: caraway seed, celery seed, coriander, dill, mace, nutmeg, paprika, parsley

Corn: chili powder, chives, oregano, parsley, sage, savory

Cucumber: basil, chives, cinnamon, cloves, dill, mint, parsley, pepper, tarragon

Eggplant: basil, marjoram, oregano, parsley, sage, thyme

Greens, dark leafy: allspice, basil, mace, marjoram, nutmeg, oregano, tarragon

Greens, salad: basil, celery seed, chervil, chives, dill, lemon pepper, marjoram, oregano, parsley, pepper, sage, savory, tarragon

Mushrooms: chives, dill, marjoram, parsley, tarragon, thyme

Onions: caraway seed, curry powder, mustard seed, nutmeg, oregano, parsley, sage, thyme, turmeric

Parsnips: chervil, dill, marjoram, parsley, rosemary, sage, thyme

Peas: allspice, basil, chervil, chives, dill, marjoram, mint, oregano, poppy seed, rosemary, sage, savory, tarragon, thyme

Potatoes, sweet: allspice, cardamom, cinnamon, cloves, ginger, mace, nutmeg

Potatoes, white: basil, bay leaf, caraway seed, celery seed, chives, dill, lemon pepper, mustard seed, oregano, parsley, pepper, poppy seed, rosemary, savory, tarragon, thyme

Pumpkin: allspice, cardamom, cinnamon, cloves, ginger, mace, nutmeg

Squash, summer: chervil, lemon pepper, marjoram, parsley, pepper, savory

Squash, winter: allspice, basil, cardamom, cinnamon, cloves, fennel, ginger, mace, mustard seed, nutmeg, rosemary

Squash, zucchini: lemon pepper, marjoram, oregano, parsley

Tomatoes: basil, bay leaf, celery seed, chervil, chili powder, dill, lemon pepper, oregano, parsley, sage, savory, tarragon, thyme

Turnips: allspice, dill, mace, nutmeg, paprika, thyme

Vegetable juices: basil, bay leaf, oregano, parsley, pepper, tarragon

Seasonings without Salt

One teaspoon of salt has about 2,000 mg of sodium. Substantially reduce your sodium intake by substituting. Any of the following seasonings can be used.



Zesty Herb Seasoning

Sodium: 47 milligrams per teaspoon

- Grated peel of 1 lemon
- 2 tablespoons ground cinnamon
- 1 tablespoon ground mace
- 1 tablespoon dried basil leaves, crushed
- 1 tablespoon dried thyme leaves, crushed
- 1 tablespoon dried rosemary leaves, crushed
- 2 teaspoons paprika
- 1 teaspoon salt and potassium chloride mixture (a purchased product with half the sodium of table salt)
- 1 teaspoon pepper
- 1 teaspoon ground cloves
- ½ teaspoon ground nutmeg
- ½ teaspoon ground allspice

1. Combine all ingredients. Refrigerate in covered container.
2. Sprinkle as desired over meat, poultry, or fish before broiling or baking.

Oriental Spice

Sodium: About 1.6 milligrams per teaspoon

- 1 teaspoon fresh grated lemon peel
- ¼ teaspoon anise seed, crushed
- ¼ teaspoon fennel seed, crushed
- ¼ teaspoon ground cinnamon
- ¼ teaspoon ground cloves
- ¼ teaspoon ground ginger

1. Combine all ingredients. Refrigerate in covered container.
2. To use, sprinkle as desired over poultry or meat stir-fry dishes.

Herbed Seasoning

Sodium: 0.65 milligrams per teaspoon

- 2 tablespoons dried dill weed or basil leaves, crumbled

- 2 tablespoons onion powder
- 1 teaspoon dried oregano leaves, crumbled
- 1 teaspoon dried celery seed
- ½ teaspoon lemon pepper (sodium-free)

1. Combine all ingredients in small bowl and blend well.
2. Spoon into shaker and use with poultry and fish.
3. Store in cool, dry place.

Spicy Blend

Sodium: 0.59 milligram per teaspoon

- 2 tablespoons dried savory, crushed
- 1 tablespoon dry mustard
- 2½ teaspoons onion powder
- 1¾ teaspoons curry powder
- 1¼ teaspoons ground pepper
- 1¼ teaspoons ground cumin
- ½ teaspoons garlic powder

1. Mix thoroughly and place in shaker. Store in cool, dry place.
2. Use with main dishes.

Shaker Spice Blend

Sodium: 1.78 milligrams per teaspoon

- 5 teaspoons onion powder
- 2½ teaspoons garlic powder
- 2½ teaspoons paprika
- 2½ teaspoons dry mustard
- 1¼ teaspoons thyme leaves, crushed
- ½ teaspoon ground pepper
- ¼ teaspoon celery seed

1. Mix thoroughly and place in shaker.
2. Use at table on main dishes, vegetables, soups or salads.

Did You Know?

Health professionals recommend a daily sodium intake below 2,300 milligrams (mg). About one third of the average intake of sodium comes from salt added to food during cooking or at the table. Read the ingredients listing and nutrition information on food labeling in all processed food.



Modifying Recipes

Reason for ingredient	Amount usually used	Result of reducing ingredient	
Candies			
Fat	Adds to rich flavor and helps prevent large crystals from forming.	Amount varies widely.	May be coarser in texture.
Sugar	Needed for crystallization, proper consistency, texture, and flavor.	About 3 cups sugar per cup liquid.	Do not change recipe. May drastically affect the volume, texture, and consistency.
Salt	Helps balance and round out the flavor.	Amount varies widely.	May change flavor.
Cakes			
Fat	Contributes to tenderness, fine grain, and texture.	2 to 4 tablespoons fat per cup of flour.	May seem less moist and flavorful.
Sugar	Contributes to tenderness, flavor, texture, moistness, and browning.	½ to 1⅓ cup sugar per cup of flour	Flavor may be less sweet; becomes stale faster. May have paler crust, less color, more open texture, more rounded top, and be drier.
Salt	Adds flavor.	Variable.	Little effect.
Canned and Frozen Fruit			
Sugar	Helps to preserve firm texture and bright color.	½ to 1⅓ cups sugar per cup water for syrup; ¼ to ⅓ cup sugar per pint of frozen fruit (dry pack).	Texture may be less firm. Flavor may be less sweet. Color may be less bright.
Canned Vegetables			
Salt	Adds flavor.	1 teaspoon salt per quart.	Flavor may change.
Cooked Fruits			
Sugar	Helps retain fruit shape and texture during cooking. Increases transparency so brighter.	½ cup sugar per cup water (too much sugar causes fruits to shrink and become firm).	Texture likely to be softer; color likely to be less bright; flavor will be less sweet.
Cookies			
Fat	Increases tenderness.	¼ to ½ cup fat per cup flour.	May make cookies less tender.
Sugar	Contributes to sweetness, browning, and tenderness. Melts during baking so cookie spreads out.	⅓ to 1⅓ cups sugar per cup flour.	Flavor will be less sweet; cookie will be tougher and paler. With less sugar to melt, cookie won't spread as much.
Salt	Adds flavor.	¼ to ½ teaspoon salt per cup flour.	May alter flavor slightly.

Reason for ingredient	Amount usually used	Result of reducing ingredient
Custards and Puddings		
Fat Causes eggs to coagulate at higher temperature so consistency is softer.	1½ to 3 tablespoons sugar per cup milk.	Consistency will be firmer, and baking time may be shorter.
Salt Adds flavor.	⅛ teaspoon salt per cup milk.	Flavor may change.
Ice Cream		
Fat Fat (in cream) helps make a smooth texture and aids incorporation of air during freezing; also gives a rich flavor.	Liquid is usually about half milk and half cream.	Using a milk product that is lower in fat reduces the richness, creaminess, and smoothness of the ice cream.
Sugar Lowers freezing point and lengthens freezing time so ice cream will be softer at a given temperature. Contributes to smooth texture. Adds sweetness.	½ cup sugar to each cup of milk or cream.	Texture may be coarser. Ice cream will be harder and less sweet. Freezing time will be shorter.
Salt Adds flavor.	Amount varies.	Little effect.
Main Dishes		
Salt Adds flavor.	1 teaspoon salt per 4 to 6 servings. 1 teaspoon salt to each pound ground beef.	Little effect.
Pasta, Rice, Legumes		
Salt Adds flavor.	1 teaspoon salt to each cup of uncooked pasta, rice, legumes.	May change flavor.
Pickles		
Sugar Contributes to crisp texture. May act as a preservative if enough is used.	Highly variable	Never change recipe. May cause texture changes and/or spoilage.
Salt Essential in brine to permit growth of desirable micro-organisms and produce acid for preventing spoilage.	Highly variable	Never change recipe. May cause texture changes and/or spoilage.
Quick Breads		
Fat Increases tenderness.	1 to 4 tablespoons fat per cup of flour.	May be less tender and less moist.
Sugar Contributes to sweetness, tenderness, browning, moistness, and volume.	1 to 4 tablespoons sugar per cup of flour.	May result in a less sweet, less tender product with a greater tendency to dry out.
Salt Adds flavor.	¼ to ½ teaspoon salt per cup of flour.	May affect flavor slightly.

Reason for ingredient	Amount usually used	Result of reducing ingredient
Sauces and Gravies		
Fat Separates the flour or starch granules to prevent lumpiness.	1 to 3 tablespoons fat per cup liquid.	Smooth sauces can be made with less fat. If no fat is used, blend starch or flour with cold liquid. Flavor will be milder.
Salt Adds flavor.	¼ teaspoon salt per cup liquid.	Little effect.
Sweet Spreads (Jellies, Jams, Preserves, Butters)		
Sugar Essential for jelling and protecting against spoilage.	Highly variable.	Do not change recipes for sweet spreads unless they are to be frozen or refrigerated. They are carefully balanced to produce a high-quality product that will not spoil.
Yeast Breads and Rolls		
Fat Increases tenderness and enhances keeping quality. Large amounts decrease volume.	1 to 3 teaspoons fat per cup of flour in bread; 1 to 4 tablespoons fat per cup flour in rolls.	May reduce keeping quality.
Sugar Contributes to a soft texture, sweet flavor, and brown crust. Provides food for yeast during fermentation. Small amounts of sugar increase the rate of fermentation; large amounts of sugar depress yeast action.	Up to 1 tablespoon sugar per cup of flour in bread; ½ to 2 tablespoons sugar per cup flour in rolls.	May affect rate of fermentation. May not be as tender or moist. Rolls may not brown as quickly.
Salt Inhibits yeast fermentation. Improves texture. Adds flavor. Has a slight toughening effect on the gluten.	¼ to ½ teaspoon salt per cup flour.	May cause yeast to grow too rapidly, resulting in a poor texture. Satisfactory bread needs some salt.

Revising Recipes

The first point to remember when revising recipes is that all changes for modifying recipes are experiments. Some work very well. Others are less satisfactory. Reviewing the guidelines on the previous pages will help you understand some of the chemistry involved in using specific ingredients in certain types of recipes. The following examples show how some ingredients can be reduced or changed to produce a product that is healthier. The decision of whether or not to change a recipe instead of serving it less frequently or in smaller portions is your choice.



Grandma's Meatballs

Changing ingredients as well as the cooking method makes a difference here. Using less total meat provides an adequate 3-ounce cooked serving (instead of 5 ounces).

Original

2 pounds 85% lean ground beef
½ cup chopped onion
2 eggs
¼ cup milk
½ cup rolled oats
½ teaspoon ground allspice
salt and pepper to taste
Omit or use less butter for frying

Revised

1½ pounds extra lean ground beef
½ cup chopped onion
2 egg whites
¼ cup skim milk
½ cup rolled oats
½ teaspoon ground allspice
salt and pepper to taste
1 teaspoon cooking oil or pan spray or bake

In large bowl, mix all ingredients except oil. Shape into 12 meatballs. Place on boiler pan or shallow baking pan that has been sprayed with nonstick spray coating. Bake at 325 °F until browned, or cook in skillet. Serve with rice, pasta, or potatoes.

Yield: 6 servings

Approximate nutritional values per serving:

352 calories	210 calories
21 grams fat	8 grams fat
54% calories from fat	5% calories from fat
172 mg cholesterol	66 mg cholesterol

Hashed Brown Potato Casserole

Substituting reduced fat ingredients is an easy change to make. Using bran cereal is a way to increase fiber. Avoid using crushed crackers that are likely to have a higher fat content.

Original

2 pounds frozen hash brown potatoes,
thawed
¼ cup chopped onion
1 teaspoon salt
¼ teaspoon pepper
8 ounces cheddar cheese, shredded
8 ounces dairy sour cream
1 can cream of chicken soup

½ cup corn flake crumbs
2 tablespoons butter

Revised

2 pounds frozen hash brown potatoes,
thawed
¼ cup chopped onion
Omit salt
¼ teaspoon pepper
8 ounces reduced fat cheddar cheese, shredded
8 ounces light dairy sour cream
1 can cream of chicken soup (99% fat free, 25%
reduced sodium)
½ cup crushed bran cereal
Omit butter

Spray a 13X 9 X 2-inch baking pan with non-stick spray coating. Add thawed potatoes, onion, and pepper. Combine cheese, sour cream, and soup; stir into potato mixture. Sprinkle crushed cereal over the top. Bake, covered at 350 °F for 50 minutes.

Yield: 12 servings

Approximate nutritional values per serving:

225 calories	166 calories
14 grams fat	6 grams fat
54% calories from fat	29% calories from fat
36 mg cholesterol	18 mg cholesterol

Did You Know?

When using a regular — not lite or microwave variety — brownie or cake mix, substitute ½ cup plain non-fat yogurt for the 2 eggs and ½ cup oil to cut down on fat.

Brownies

Serving size and frequency of eating are important factors in deciding when to change sweet baked products. This example offers the alternative of replacing margarine with applesauce.

Original

½ cup margarine

1 cup sugar

1 egg

1 teaspoon vanilla

¾ cup flour

¼ cup cocoa

¼ teaspoon baking powder

¼ teaspoon salt

½ cup chopped

Texas pecans

Moderate

¼ cup margarine

¼ cup unsweetened
applesauce

1 cup sugar

1 egg

1 teaspoon vanilla

¾ cup flour

¼ cup cocoa

¼ teaspoon baking powder

¼ teaspoon salt

½ cup chopped

Texas pecans

Low Fat

Omit

½ cup unsweetened
applesauce

1 cup sugar

2 egg whites

1 teaspoon vanilla

¾ cup flour

¼ cup cocoa

¼ teaspoon baking powder

¼ teaspoon salt

Omit

Omit

Spray a 9H9H2-inch baking pan with nonstick spray coating; set aside. In mixer bowl, combine applesauce, sugar, egg whites, and vanilla. Stir in flour, cocoa, baking powder, and salt. Pour into pan and bake at 350 °F for 20 to 25 minutes.

Yield: 16 servings

Approximate nutritional values per serving:

153 calories

9 grams fat

49% calories from fat

13 mg cholesterol

117 calories

5 grams fat

34% calories from fat

13 mg cholesterol

78 calories

0.2 grams fat

3% calories from fat

0 mg cholesterol

Homemade Ice Cream

Safety First: This is a typical cooked custard ice cream because the egg mixture is cooked before freezing. The cooking step will destroy any salmonella bacteria that might be present in raw eggs. If your favorite homemade ice cream recipe uses raw eggs and you don't want to convert it to a cooked custard ice cream, substitute whole liquid pasteurized eggs available from some supermarkets.

Original

2 cups sugar
¼ cup cornstarch
¼ teaspoon salt
4 cups whole milk
4 eggs, beaten
2 tablespoons vanilla
4 cups whipping cream

Lower Fat

2 cups sugar
¼ cups cornstarch
¼ teaspoon salt
4 cups 2 percent milk
4 eggs, beaten
2 tablespoons vanilla
4 cups half and half

Mix sugar, cornstarch, and salt in the top of a double boiler. Gradually blend in 4 cups milk. Cook over hot water, stirring occasionally until thickened, 12-15 minutes. Stir in a small amount of the hot cornstarch mixture into the beaten eggs; then stir the eggs into the remaining cornstarch mixture. Continue cooking, stirring constantly 4-5 minutes longer, or until the mixture is about the consistency of pudding. Chill thoroughly. This step is essential for a smooth ice cream. Stir in vanilla and remaining milk or cream. Pour into a 1 gallon ice cream freezer and freeze according to manufacturer's directions. Remove the dasher; add mixture of ice and salt to freezer, if needed, cover with heavy blanket and allow ice cream to harden about 2 hours.

Yield: About 1 gallon in a standard ice cream freezer, 32 ½-cup servings.

Approximate nutritional values per serving:

182 calories	115 calories
13 grams fat	5 grams fat
61% calories from fat	36% calories from fat
72 mg cholesterol	41 mg cholesterol

Pumpkin Bread

This recipe can also be baked in two mini-loaf pans (check for doneness after 50 minutes).

Original

¾ cup pumpkin
½ cup sugar
½ cup vegetable oil
1 egg white
1 cup all-purpose flour
½ cup whole wheat flour
1 teaspoon baking powder
1 teaspoon baking soda
1 teaspoon ground
cinnamon
¼ teaspoon salt
½ cup chopped nuts

Moderate Fat

1 cup pumpkin
1 cup sugar
¾ cup vegetable oil
1 egg white
¾ cup all-purpose flour
¾ cup whole wheat flour
1 teaspoon baking powder
1 teaspoon baking soda
1 teaspoon ground
cinnamon
¼ teaspoon salt
½ cup raisins

Low Fat

1 cup pumpkin
½ cup sugar
2 tablespoons vegetable oil
2 tablespoons plain lowfat yogurt
¾ cup all-purpose flour
¾ cup whole wheat flour
1 teaspoon baking powder
1 teaspoon baking soda
1 teaspoon ground
cinnamon
¼ teaspoon salt
½ cup raisins

In large mixer bowl, beat together pumpkin, sugar, oil, and eggs or yogurt. In a medium bowl, combine the flours, baking powder, baking soda, cinnamon, and salt. Add to pumpkin mixture, stirring just until moistened. Stir in the nuts or raisins. Pour into a greased 9H5H3-inch loaf pan. Bake in preheated 350 °F oven for about 1 hour, or until a wooden toothpick inserted near the center comes out clean. Cool on a wire rack for 10 minutes; remove from the pan and cool completely.

Yield: 16 slices

Approximate nutritional value per slice:

155 calories
9 grams fat
53% calories from fat
0 mg cholesterol

127 calories
5 grams fat
32% calories from fat
0 mg cholesterol

105 calories
3 grams fat
17% calories from fat
0 mg cholesterol

Did You Know?

Comparing numbers — of calories and grams of fat or fiber, for example — is one way to select which foods to eat. But specific numbers fail to reflect flavor, cost, or individual status. Healthy eating means learning to balance both the variety and quantity of foods eaten over several days.



U.S. Department of Agriculture's ChooseMyPlate.gov

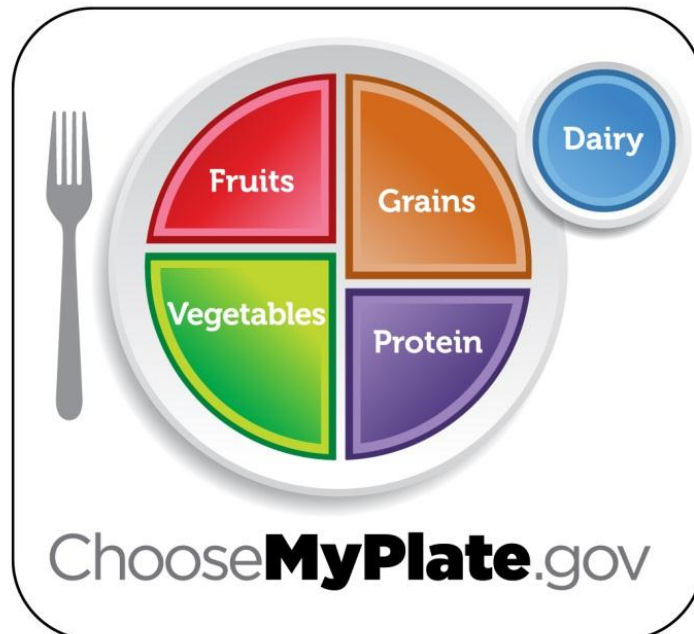
The federal government's new food icon, *MyPlate* (ChooseMyPlate.gov), serves as a reminder to help consumers make healthier food choices. *MyPlate* is a new generation icon with the intent to prompt consumers to enjoy their food, avoid oversized portions, and think about building a healthy plate at meal times. Consumers can seek more information to help them with these decisions at: www.ChooseMyPlate.gov.

MyPlate emphasizes the recommended amounts of foods seen on the plate, with each food group in a representative color (grains, vegetables, fruits, dairy, and protein foods). The food group proportions to select plus those to increase (more whole grains, half plate fruits/vegetables, and fat-free dairy choices) are illustrated on *MyPlate* and should approximate the total daily food intake. Read food labels to compare sodium in processed foods (soup, bread, frozen meals), and choose the foods with lower numbers. Drink water instead of sugary drinks.

The *MyPlate* icon is based on recommendations from the 2010 Dietary Guidelines for Americans*. This dietary advice is to promote healthful lifestyles through wise food choices and daily physical activities to reduce the risk of major chronic disease. It is for people 2 years of age or older.

After you type in your age and activity level into the ChooseMyPlate.gov website, you will access recommendations for the kinds and amounts of food to eat with Daily Food Plan. The SuperTracker helps you plan, track your daily foods eaten and physical activity, plus other interactive tools. The *MyPlate* website offers the *10 Tips for Nutrition Education Series*. Then you are provided in-depth information about the various food groups, standards or measurements, and physical activity.

*Reference: U.S. Dept. of Health and Human Services 2010 Dietary Guidelines for Americans, July, 2011, www.DietaryGuidelines.gov.



Additional Information

Research-based information and/or publications that may be available at local county Texas A&M AgriLife Extension Service offices:

- Dietary Guidelines for Americans, 2010
- Food Allergies Bulletin, Texas A&M AgriLife Extension Service
- Special Food Needs Dietary Guide, D-1284, 2012
- The Sodium Content of Your Food, B-1400, 2011
- USDA's ChooseMyPlate.gov, 2011
- Nutrient Needs at a Glance, E-589/E-589S (English/Spanish), 2011



References:

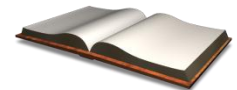
Altering Recipes ✓ reduce, ✓ substitute, ✓ omit, North Central Regional Extension Publication, 473. June 1993.

Hooper, L. (ed.) The Healthy Heart Cookbook, Oxmoor House. 1992.

Handbook of Food Preparation, American Family & Consumer Science Association. 91 Edition. Kendall/Hunt Publishing Company. 2001.

Inglett, G.E. USDA Develops Tasty-No-Cal, High Fiber Fat Substitute. Biopolymer Research, Agricultural Research Service, USDA, Peoria, IL. 61604, 1997.

Pennington, J.A.T. Bowes & Church's Food Values of Portions Commonly Used. 19th Edition. Philadelphia. J.B. Lippencott Company. 2009.



For Cookbooks and Recipes for Specific Conditions:

- Academy of Nutrition and Dietetics'(ANAD) Hotline: 1-800-366-1655; 1-800-877-1600; www.eatright.org
- American Diabetes Association's Hotline 1-800-232-3472 or 1-800-342-2383 <http://www.diabetes.org>
- American Heart Association 1-800-AHA-USA; 1-800-242-8721 <http://www.americanheart.org>
- National Heart, Lung and Blood Institute (NHLBI), National Institutes of Health (NIH), *Your Guide to Lowering Your Blood Pressure with Dash*, http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf